

**BEFORE THE ARIZONA CORPORATION COMMISSION**

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Chairman  
WILLIAM A. MUNDELL  
Commissioner  
JEFF HATCH-MILLER  
Commissioner  
MIKE GLEASON  
Commissioner  
KRISTIN K. MAYES  
Commissioner

IN THE MATTER OF ILEC UNBUNDLING )  
OBLIGATIONS AS A RESULT OF THE )  
FEDERAL TRIENNIAL REVIEW ORDER )  
\_\_\_\_\_ )

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PUBLIC

DIRECT

TESTIMONY

OF

MATTHEW ROWELL

CHIEF ECONOMIST

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 30, 2004

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1 **Executive Summary**

2 My testimony addresses several of the requirements of the FCC's Triennial Review Order:  
3 market definition, analysis of triggers and analysis of potential deployment. Staff's recommended  
4 market definition is based on UNE Rate Zones within Qwest's Tucson and Phoenix Rate Centers.  
5 Staff's recommended market definition also includes separate markets for residential and business  
6 customers and a carve out for IDLC loops. Staff's Trigger analysis results in a recommendation  
7 of no-impairment for business customers (who are not served by IDLC loops) in UNE Rate Zone  
8 1 wire centers within the Phoenix and Tucson Rate Centers. Staff's Trigger analysis does not  
9 support a no-impairment finding in any other areas of Arizona.

1 **Introduction**

2 **Q. Please state your name and business address for the record.**

3 A. My name is Matthew Rowell. My business address is: Arizona Corporation Commission,  
4 1200 West Washington Street, Phoenix, Arizona 85007.

5  
6 **Q. What is your position at the commission?**

7 A. I am the Chief of the Telecommunications and Energy section of the Commission's  
8 Utilities Division.

9  
10 **Q. Please describe your education and professional background.**

11 A. I received a BS degree in economics from Florida State University in 1992. I spent the  
12 following four years doing graduate work in economics at Arizona State University where  
13 I received a MS degree and successfully completed all course work and exams necessary  
14 for a Ph.D. My specialized fields of study were Industrial Organization and Statistics.  
15 Prior to my Commission employment I was employed as a lecturer in economics at  
16 Arizona State University, as a statistical analyst for Hughes Technical Services, and as a  
17 consulting research analyst at the Arizona Department of Transportation. I was hired by  
18 the Commission in October of 1996 as an Economist II. I was promoted to the position of  
19 Senior Rate Analyst in November of 1997 and to Chief Economist in July of 2001. In my  
20 current position I am responsible for supervising nine professionals who work on a variety  
21 of telecommunications and energy matters.

22  
23 **Background**

24 **Q. Would you please briefly describe the procedural history of this case?**

25 A. The Federal Communication Commission's ("FCC") Triennial Review Order ("TRO")  
26 found (among several other findings) that the ability of competitive local exchange

1 carriers (“CLECs”) to enter a market and effectively compete for “mass market”  
2 customers is impaired without access to unbundled switching.<sup>1</sup> However, the TRO  
3 provides that this finding of impairment can be reversed should a granular review of the  
4 available evidence in a particular market indicate that CLECs could effectively compete  
5 without access to unbundled switching.<sup>2</sup> That “granular” review was delegated to the  
6 states. In Arizona Qwest has presented a case rebutting the finding of impairment for  
7 unbundled switching within the Phoenix and Tucson Metropolitan Statistical Areas  
8 (“MSAs”). Qwest has not asked for a finding of no impairment for areas outside of the  
9 Phoenix and Tucson MSAs. Also, no other ILEC in Arizona has requested any finding of  
10 no impairment. Accordingly, Staff’s analysis will focus primarily on the portions of  
11 Qwest’s Service Area encompassed by the Phoenix and Tucson MSAs.

12  
13 **Q. What is the purpose of your testimony?**

14 A. My testimony addresses several aspects of the analysis necessary to make a determination  
15 regarding whether the absence of unbundled switching would impair CLECs’ ability to  
16 compete for mass-market customers. Specifically, my testimony will address the issues of  
17 market definition, the analysis of the TRO’s “triggers,” and whether it is economically  
18 viable for CLECs to serve the mass market without access to unbundled switching.

19  
20 **Q. Who are “mass-market” customers?**

21 A. The FCC defines mass-market customers as residential and very small business customers  
22 who can only be served economically via analog DS0 loops.<sup>3</sup> Mass-market customers  
23 tend to have lower revenue accounts and are less likely to enter into term commitments  
24 than enterprise customers.<sup>4</sup> The FCC has suggested that the cut off between mass-market

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<sup>1</sup> TRO ¶ 459

<sup>2</sup> Id ¶¶ 462, 463

<sup>3</sup> A DS0 loop basically refers to an ordinary telephone line. A DS1 loop is a circuit with a capacity of 24 DS0 loops.

<sup>4</sup> TRO ¶ 459 and foot note 1402

1 business customers and enterprise customers (i.e., the cutoff between very small business  
2 customers and all other business customers) be set at four lines.<sup>5</sup> States are authorized to  
3 change that cut over criteria if there is significant evidence supporting such a change. At  
4 this time Staff does not believe that changing the four line cut off is appropriate.

5  
6 **Q. How is unbundled switching typically employed by CLECs serving mass-market**  
7 **customers?**

8 A. Typically, unbundled switching is employed as part of the Unbundled Network Element  
9 Platform ("UNE-P.") The UNE-P product bundles all of the network elements necessary  
10 to provide end users with local service (including switching.) The UNE-P product is  
11 functionally similar to the Resale of local exchange service. One important difference  
12 between UNE-P and Resale is the treatment of access charges. When a CLEC enters into  
13 a Resale agreement with Qwest (or any other ILEC), the CLEC has no claim to the access  
14 charges associated with its end users' long distance traffic. With Resale the ILEC keeps  
15 the access charges. Conversely, when a CLEC leases the UNE-P product from Qwest, the  
16 CLEC receives the access revenues.

17  
18 **Q. With respect to unbundled switching what are the implications of a finding of no**  
19 **impairment?**

20 A. A finding of no impairment would mean that Qwest would no longer be required to offer  
21 unbundled switching, and hence UNE-P, to CLECs. CLECs would need to use their own  
22 switches (or lease switching services from a third party) in order to provide local service  
23 to end users (usually in conjunction with leasing an unbundled loop ("UNE-L") and  
24 transport from Qwest).

25  

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<sup>5</sup> Id ¶ 497

1 **Q. Has the effect of a finding of no impairment on investment been examined by the**  
2 **FCC?**

3 A. Yes. Arguments concerning the availability of unbundled network elements (“UNEs”)  
4 often turn to the issue of investment incentives. The ILECs argue that the availability of  
5 UNEs discourages CLECs from investing in their own facilities. The CLECs argue that  
6 elimination of switching UNEs will not result in increased CLEC investment. The FCC  
7 found that neither the CLECs nor the ILECs have made a convincing argument regarding  
8 investment incentives. In fact the FCC concluded that, “... (T)he economic studies  
9 presented by both sides of the industry suffer from several fundamental flaws that  
10 undermine their probative value.”<sup>6</sup> The issue of investment incentives is not a part of the  
11 granular review that the FCC has delegated to the states.  
12

13 **Q. What were the reasons that the FCC found that CLECs are impaired without access**  
14 **to unbundled switching for mass-market customers?**

15 A. The FCC found that ILECs cannot handle the volume of UNE-L conversions necessary to  
16 serve the mass market.<sup>7</sup> A UNE-L conversion is the process of lifting a loop from the  
17 ILECs switch and then connecting it to a CLEC’s switch.<sup>8</sup> This is a labor-intensive  
18 process that involves skilled technicians working in what can be confined conditions. A  
19 Batch Hot Cut process is being developed to facilitate high volumes of UNE-L  
20 conversions. Staff will file testimony on the Batch Hot Cut process at a later date.  
21

22 The FCC also found that there are other operational and economic sources of impairment  
23 that need to be considered.<sup>9</sup> The operational barriers the FCC cites include the availability  
24 of collocation space and the ILECs’ failure to provide CLEC to CLEC cross connects on a

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<sup>6</sup> Id ¶ 449

<sup>7</sup> Id ¶ 459

<sup>8</sup> UNE-L conversions are also referred to as “hot cuts.”

<sup>9</sup> TRO ¶ 476

1       timely basis.<sup>10</sup> One of the principal economic barriers the FCC cites is the CLECs' need  
2       to "backhaul" traffic. CLECs who use their own switches typically serve customers  
3       outside of the wirecenter where their switch is located. Thus, the CLECs need to install  
4       equipment in the wirecenter where the customer is located that digitizes, aggregates, and  
5       transmits their traffic to their switch. This usually involves paying the ILEC to transport  
6       the traffic to the CLEC switch.<sup>11</sup> CLECs argue that the cost of backhauling creates a  
7       significant cost disadvantage relative to the ILECs. The ILECs and CLECs presented cost  
8       studies to the FCC purporting to show that CLEC entry into the mass market without  
9       unbundled switching is, respectively, economic and uneconomic. The FCC, again, was  
10      not persuaded by either side's studies.<sup>12</sup> The FCC did find that these studies support the  
11      need for a more "granular" analysis. So while the FCC found that there are economic  
12      barriers to entry without UNE switching, the FCC has directed the states to perform a  
13      granular analysis of these economic factors on a market-by-market basis.<sup>13</sup> The FCC also  
14      recognized that there may be additional operational and economic factors affecting the  
15      provisioning of UNE-L that result in impairment.

16  
17      **Q.     Please describe the "granular" review the TRO requires states to undertake.**

18      **A.**     The FCC lays out a two-step process to determine whether a finding of "no-impairment"  
19      is appropriate in a particular market. The first step is the analysis of two triggers: self-  
20      provisioning and wholesale switching availability. To apply these triggers a market  
21      definition must be adopted. If either of these triggers is satisfied within a defined market a  
22      finding of no-impairment is justified for that market and no further analysis is needed with  
23      respect to that market. The second step applies if neither of these triggers is satisfied. In

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<sup>10</sup> Id ¶ 477 and 478

<sup>11</sup> Id ¶ 480

<sup>12</sup> Id ¶ 481-483

<sup>13</sup> Id ¶¶ 484 and 485



1           that case, determination of whether CLEC self deployment is possible is based upon a  
2           review of operational and economic criteria.<sup>14</sup>

3  
4       **Q.    How does the question of market definition relate to the two-step process**  
5       **summarized above?**

6       A.    The question of market definition is fundamental to the analysis. How the Commission  
7           decides to define the market essentially will determine the outcome of the trigger analysis.  
8           An analysis of operational and economic criteria could also be heavily influenced by how  
9           the market is defined since these criteria could vary widely across geographic areas.

10  
11       **Market Definition**

12       **Q.    What guidance does the FCC provide regarding how to properly define the market?**

13       A.    In paragraphs 495 and 496 (and associated footnotes) of the TRO the FCC lays out the  
14           following criteria for market definition:

- 15  
16       •    State Commissions may not define the market as encompassing the entire state.
- 17  
18       •    State Commissions must define each market on a granular level, taking into consideration  
19           the locations of customers actually being served (if any) by competitors. For example, if  
20           competitors with their own switches are only serving certain geographic areas, the state  
21           commission should consider establishing those areas to constitute separate markets.
- 22  
23       •    State Commissions must consider the variation in factors affecting competitors' ability to  
24           serve each group of customers. For example, if UNE-L rates vary substantially across a  
25           state, and this variation is likely to lead to a different finding concerning the existence of  
26           impairment in different parts of the state, the state commission should consider separating  
27           zones with high and low UNE-L rates for purposes of assessing impairment. It is also  
28           appropriate to examine how retail rates vary geographically.
- 29  
30       •    Competitors' ability to target and serve specific markets economically and efficiently  
31           using currently available technologies should also be considered. For example,  
32           competitors often are able to target particular sets of customers, or customers in particular

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<sup>14</sup> Id ¶ 494

1 wire centers or rate zones. How the number of high-revenue customers (e.g., business  
2 customers) varies geographically also should be taken into account.

- 3
- 4 • While a more granular analysis is generally preferable, state Commissions should not  
5 define the market so narrowly that a competitor serving that market alone would not be  
6 able to take advantage of available scale and scope economies from serving a wider  
7 market.
  - 8
  - 9 • State commissions should consider how competitors' ability to use self-provisioned  
10 switches or switches provided by a third-party wholesaler varies geographically. Also,  
11 variations in the capabilities of wire centers to provide adequate collocation space and  
12 handle large numbers of hot cuts can also be considered. How the cost of serving  
13 customers varies according to the size of the wire center and the location of the wire  
14 center is another factor that can be used.
  - 15
  - 16 • The state commission must use the same market definitions for all of its analysis regarding  
17 unbundled switching for mass-market customers.
  - 18

19 As can be seen from the discussion of the TRO's market definition criteria above, the  
20 TRO gives states considerable flexibility in defining the appropriate markets.

21

22 **Q. What does Staff recommend regarding the appropriate geographic area the**  
23 **Commission should use for its market definition?**

24 A. Staff considered many options for its market definition, including those proposed by the  
25 parties in their Direct Testimonies. The analysis Staff performed indicated there are  
26 significant differences in the level of competitive activity within the Phoenix Rate Center  
27 and outside of that Rate Center. Additionally, within the Phoenix Rate Center there are  
28 significant differences in the level of competitive activity across the three UNE Rate  
29 Zones. Similarly, within the Tucson Rate Center (which happens to be identical to the  
30 Tucson MSA) the level of competitive activity varies significantly across the three UNE  
31 Rate Zones. Staff is recommending that, for purposes of evaluating UNE switching in the  
32 Phoenix and Tucson MSAs, the geographic markets should be defined on a Rate Center

1 basis and that the Rate Centers should be further subdivided by UNE Rate Zones. As  
2 discussed below, Staff also included non-geographic factors in its market definition.

3  
4 **Q. Is geography the only factor the Commission should consider when defining a**  
5 **market?**

6 A. No. The TRO clearly states that state Commissions must consider "...the variation in  
7 factors affecting competitors' ability to serve each group of customers."<sup>15</sup> Such factors  
8 could be affected by geography but they can also be affected by non-geographic  
9 considerations such as the characteristics of different groups of customers and the  
10 available technology. Staff recommends that residential and business customers be treated  
11 as separate markets within the geographic areas described above. Additionally, Staff  
12 recommends that loops that utilize Integrated Digital Loop Carrier ("IDLC") technology  
13 be carved out as a separate market within the context of the geographic areas described  
14 above. The reasons for the IDLC carve out are addressed in detail in the testimony of  
15 Staff witness Richard Boyles.

16  
17 **Q. What geographic areas did Staff consider when developing its definition of the**  
18 **market?**

19 A. Staff considered several different geographic areas in its analysis of the market definition  
20 question. The different areas considered include (roughly from largest to smallest):

- 21  
22 • ILEC Service areas  
23 • Local Access and Transport Areas ("LATAs")  
24 • MSAs  
25 • Counties  
26 • Metropolitan Trading Areas ("MTAs")  
27 • Exchange Areas  
28 • Rate Centers

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<sup>15</sup> Id ¶495

- Contiguous Groups of Wire Centers
- Zip Code Boundaries
- Wire Centers
- UNE Rate Zones

**Q. Please discuss the problems associated with using Zip Code Boundaries, Counties, Wire Centers, Metropolitan Trading Areas (“MTAs”), Exchange Areas, and Contiguous Groups of Wire Centers as the basis of a market definition.**

A. Zip Code Boundaries, Counties and MTAs have no relation to how information regarding (wire line) telecommunications is normally available. Thus, it would be difficult to obtain any information based on Counties or Zip Codes. Additionally, Zip Codes are likely to be too small to allow competitors to realize economies of scale as required by the TRO<sup>16</sup> and Counties are likely to be too large to allow for the granular analysis required by the TRO. Individual Wire Centers, which MCI proposed be the basis of a market definition, are also likely to be too small to allow competitors to realize economies of scale as required by the TRO. Exchange areas are similar to Rate Centers and information on Rate Centers was more readily available. Some parties have advocated using contiguous groups of wire centers.<sup>17</sup> It is not clear to Staff how contiguous groups of wire centers would be established. The criteria necessary to establish such groups are likely to be problematic. Although it was not Staff’s goal to develop a market definition based on contiguous wire centers, Staff’s analysis did lead to a Market Definition that consists of wire centers that for the most part are contiguous and grouped together within the Phoenix and Tucson metropolitan areas.

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<sup>16</sup> TRO ¶ 495

<sup>17</sup> See Direct Testimony of Ben Johnson on Behalf of RUCO.

1 **Q. Please discuss the problems associated with using ILEC Service Areas and LATAs as**  
2 **the basis of a market definition.**

3 A. Qwest has not asked for a no impairment finding across its entire service area and no party  
4 to this case has advocated the use of ILEC service areas as a basis for defining markets.  
5 Additionally, Staff believes that Qwest's entire service area would be far too large an area  
6 to be the basis of a granular study. Qwest's service area consists of two LATAs. AT&T  
7 argued in their direct testimony that the LATA should be the basic geographic area used in  
8 defining markets. A review of the available data indicate that there are extreme variations  
9 in the number of mass-market customers being served by CLECs within the LATA. The  
10 Charts below summarize the competitive activity (as well as Qwest's line count) within  
11 the Phoenix and Tucson LATAs.

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13

[REDACTED]							
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

14  
15  
16

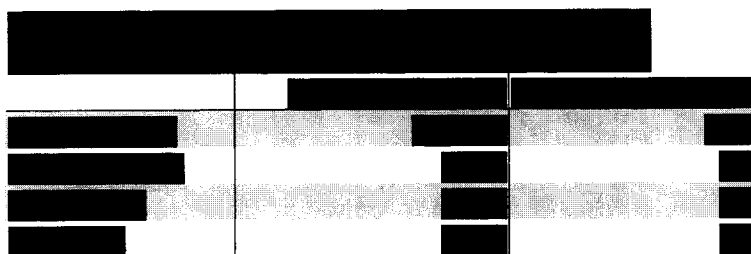
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	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
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	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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[REDACTED]

These charts demonstrate that 100% of the UNE-L based competition is occurring within the Phoenix and Tucson MSAs. Also, 100% of the cable based CLEC activity is occurring within the Phoenix and Tucson MSAs. In other words 100% of customers who are being served by CLECs who use their own switches are located in the Phoenix and Tucson MSAs. Additionally, the following charts summarize the total CLEC activity within the two LATAs:

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Charts 3 and 4 demonstrate clearly that CLEC activity within the Phoenix MSA is significantly different from that in other parts of the Phoenix LATA. Similarly, CLEC activity within the Tucson MSA is significantly different from that in other parts of the Tucson LATA. In other words, there are significant differences in CLEC activity within the LATAs. This difference is even more pronounced when we look at CLECs who use their own switches. Thus, the LATA is far too large a geographic area to be considered a market under the TRO's guidelines. Specifically the TRO states that:

[REDACTED]

1 State Commissions must define each market on a granular level, taking into  
2 consideration the locations of customers actually being served (if any) by  
3 competitors.<sup>22</sup> For example, if competitors with their own switches are only  
4 serving certain geographic areas, the state commission should consider  
5 establishing those areas to constitute separate markets.<sup>23</sup>

6  
7 Clearly, competitors using their own switch (i.e., UNE-L and cable based competitors)  
8 within the LATA are only serving certain geographic areas within the LATA. Thus, the  
9 LATA is too large for the granular analysis required by the TRO.

10  
11 **Q. Charts 1 through 4 above indicate that most of the competitive activity is occurring**  
12 **within the Phoenix and Tucson MSAs. Why is Staff not recommending the MSAs as**  
13 **the appropriate geographic market definition?**

14 **A.** While Qwest proposed the MSA as the appropriate market definition, when we analyze  
15 CLEC activity within the Phoenix MSA we find similar problems as we did with the  
16 LATA.<sup>24</sup> There are significant differences in CLEC activity across the Rate Centers  
17 within the Phoenix MSA. The following charts demonstrate this clearly:

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<sup>22</sup> TRO ¶ 495

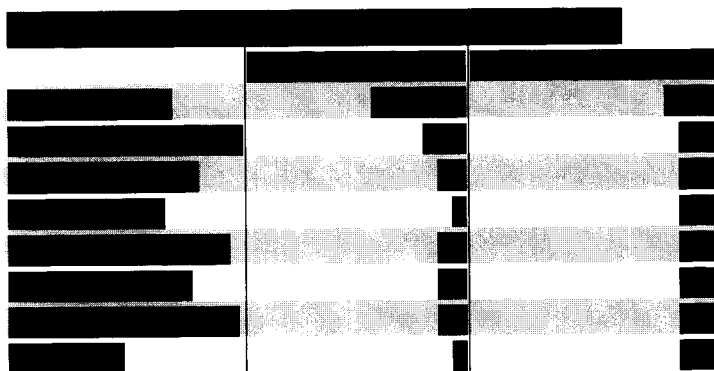
<sup>23</sup> TRO footnote 1537

<sup>24</sup> The Tucson MSA and Tucson Rate Center are identical (i.e., they contain the same Qwest wire centers) thus a discussion of the differences across rate centers within MSAs is only relevant for the Phoenix MSA.

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Chart 5 shows that 100% of the UNE-L based competition is occurring within the Phoenix Rate Center. Also, 100% of the cable based CLEC activity is occurring within the Phoenix Rate Center. In other words, within the Phoenix MSA, 100% of customers who are being served by CLECs who use their own switches are located in the Phoenix Rate Center. Additionally, the following chart summarizes the total CLEC activity within the Phoenix MSA:

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Clearly CLEC activity within the Phoenix Rate Center is significantly different from that in other parts of the Phoenix MSA. In other words, there are significant differences in CLEC activity within the Phoenix MSA. This difference is even more pronounced when we look at CLECs who use their own switches. Thus, the Phoenix MSA is far too large a geographic area to be considered a market under the TRO's guidelines. Using the Phoenix MSA as the definition of the market would ignore the TRO's admonition to "...define each market on a granular level, taking into consideration the locations of customers actually being served (if any) by competitors."<sup>27</sup>

[REDACTED]

<sup>27</sup> TRO ¶ 495



**Q. The above discussion focused on the Phoenix MSA. What about the Tucson MSA?**

A. The Tucson MSA is identical to the Tucson Rate Center. That is, the Tucson MSA contains the same Qwest Wire Centers as the Tucson Rate Center. The Tucson MSA is significantly smaller (in terms of numbers of lines) than the Phoenix MSA. Thus, the analysis described above for the Phoenix MSA is not necessary for the Tucson MSA.

**Q. The above analysis indicates that the Rate Center is a more appropriate basis for a geographic market definition than the MSA. Are there significant variations in competitive activity within the Rate Centers that warrant further subdivision of the geographic area used to define the market?**

A. Yes. If we divide the rate centers by UNE Rate Zones we find that there are significant differences in the level of competitive activity across them. The UNE Rate Zones were established by the Commission in Decision No. 64922. In that proceeding rates for UNE-L (and hence UNE-P) were geographically de-averaged on a Wire Center basis. Loop costs for each Wire Center were determined in order to divide the wire centers into three zones. Low cost wire centers were grouped into Zone 1, higher cost wire centers into Zone 2, and the highest cost wire centers into Zone 3. UNE-L rates were then based on the average loop cost within each of the three zones. Chart 7 and 8 summarize CLEC activity across the three UNE Rate Zones in the Phoenix and Tucson Rate Centers.

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[illegible]

1

[REDACTED]					
		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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3 Chart 7 shows that there is no UNE-L activity in UNE Rate Zones 2 and 3 in the Phoenix  
4 rate center. Chart 8 shows a minimal amount of UNE-L activity in UNE Rate Zones 2 and  
5 3 in the Tucson Rate Center. Considering the guidelines established by the TRO, it is  
6 appropriate to establish the three UNE Rate Zones within the Tucson and Phoenix Rate  
7 Centers as separate markets. The TRO states that:

8  
9 “...(I)f competitors with their own switches are only serving certain geographic  
10 areas, the state commission should consider establishing those areas to constitute  
11 separate markets.”<sup>30</sup>

12  
13 “...(S)tate Commissions must define each market on a granular level, and in doing  
14 so they must take into consideration the location of customers actually being  
15 served (if any) by competitors, (and) the variation in factors affecting competitors’  
16 ability to serve each group of customers.”<sup>31</sup>

17  
18 The TRO also specifically singles out UNE Rate Zones as likely candidates for a basis of  
19 market definition:

20  
21 “For example, if UNE-L rates vary substantially across a state, and this variation is  
22 likely to lead to a different finding concerning the existence of impairment in  
23 different parts of the state, the state commission should consider separating zones  
24 with high and low UNE-L rates for purposes of assessing impairment.”<sup>32</sup>

25  
[REDACTED]  
<sup>30</sup> TRO footnote 1537

<sup>31</sup> Id ¶ 495

<sup>32</sup> Id Footnote 1538

1 Separating the market based on UNE Rate Zones is consistent with the TRO and the  
2 available data indicate there are substantial differences in competitive activity across the  
3 three UNE Rate Zones.

4  
5 **Q. Staff is also recommending that in addition to the geographic market definition**  
6 **described above that there be separate markets established for residential and**  
7 **business customers. Can you explain Staff's reasoning on this point?**

8 **A.** The available data indicate that there are separate markets for business and residential  
9 customers. There are eight CLECs using UNE-L to serve mass-market customers in the  
10 Phoenix Rate Center (all in UNE Rate Zone 1.) Of those eight CLECs only two are using  
11 UNE-L to serve residential customers, **BEGIN CONFIDNETIAL INFORMATION**

12 [REDACTED] **END**

13 **CONFIDENTIAL INFORMATION** Additionally, **BEGIN CONFIDNETIAL**  
14 **INFORMATION** [REDACTED] **END CONFIDENTIAL INFORMATION** has

15 indicated that they are not actively seeking new customers, either business or residential.<sup>33</sup>

16 Thus, there is only one CLEC in the Phoenix Rate Center that is seeking to serve  
17 residential customers with UNE-L. In the Tucson Rate Center the situation is similar.

18 There **BEGIN CONFIDNETIAL INFORMATION** [REDACTED] **END**

19 **CONFIDENTIAL INFORMATION** is the only CLEC serving residential customers  
20 with UNE-L. Since **BEGIN CONFIDNETIAL INFORMATION** [REDACTED] **END**

21 **CONFIDENTIAL INFORMATION** has indicated that they are not actively seeking new  
22 customers, either business or residential, there are no CLECs in the Tucson Rate Center  
23 seeking to serve residential customers with UNE-L. Charts 9 and 10 summarize the  
24 activity of CLECs who are using UNE-L to provide service to mass-market customers.  
25

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<sup>33</sup> Response to Staff data request 3-1 and 3-2 and phone conversations with Staff council.

\_\_\_\_\_

[illegible][illegible]

Charts 9 and 10 show clearly that the vast majority of UNE-L lines are used to provide service to business customers not residential.

<sup>39</sup> Using numbers from DLT-E where CLEC numbers are unavailable

<sup>45</sup> Using numbers from DLT-E where CLEC numbers are unavailable

1 **Q. Is dividing the market based on type of customer served (business and residential)**  
2 **consistent with the TRO?**

3 A. Yes. The TRO states that when defining the market State Commissions must consider "...  
4 the variation in factors affecting competitors' ability to serve each group of customers."<sup>46</sup>  
5 Given the wide disparity in the number of UNE-Ls being used to serve business and  
6 residential customers there must be a variation in some factors that affect competitor's  
7 ability to serve these two groups of customers.

8  
9 **Q. Staff is also recommending that loops that utilize IDLC technology be carved out as a**  
10 **separate market within the context of the geographic areas described above. Please**  
11 **explain this recommendation.**

12 A. Loops that utilize IDLC technology are problematic when it comes to the provisioning of  
13 UNE-L. Staff witness Richard Boyles explains in detail in his Direct Testimony the  
14 problems associated with provisioning UNE-L from loops that utilize IDLC technology.  
15 The TRO is clear that "... (C)ompetitors' ability to target and serve specific markets  
16 economically and efficiently using currently available technologies should also be  
17 considered"<sup>47</sup> when defining markets. The presence of IDLC technology inhibits the  
18 ability of CLECs to provide service with UNE-L. Thus, carving out the IDLC loops as a  
19 separate market is consistent with the TRO.

20  
21 **Triggers**

22 **Q. Please describe the Trigger analysis required by the TRO.**

23 A. The TRO lays out two triggers: Three or more (unaffiliated) CLECs self-provisioning  
24 switches and two or more wholesale providers of switching (unaffiliated with the ILEC).

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<sup>46</sup> TRO ¶ 495

<sup>47</sup> Id ¶ 495

1 If either of these triggers is met the Commission must make a finding of no-impairment  
2 subject to certain limitations.  
3

4 **Q. Does the Commission have any flexibility in the Trigger analysis?**

5 A. Yes. Paragraph 499 of the TRO lays out criteria the states are to apply when developing  
6 their Trigger analysis. That paragraph requires that for a competitive switch provider to  
7 be counted in the Trigger analysis they,

8  
9 “...should be actively providing voice service to mass market customers in the  
10 market. They must also be operationally ready and willing to provide service to all  
11 customers in the designated market. They should be capable of economically  
12 serving the entire market.”

13 This language indicates that all CLECs with switches are not to be automatically counted  
14 for purposes of the Triggers. The state must evaluate whether a particular CLEC meets  
15 the above criteria.  
16

17 **Q. When evaluating the triggers should intermodal competitors such as wireless and**  
18 **cable based providers be included in the analysis?**

19 A. The TRO is clear that wireless providers are not to be considered in the Trigger analysis  
20 because they do not equal traditional ILEC services in terms of quality, ability to handle  
21 data traffic, ubiquity, and ability to provide broadband service to the mass market.<sup>48</sup>  
22 States have discretion as to whether cable based providers should be included in the  
23 Trigger analysis. The TRO advises states to “...consider to what extent services provided  
24 over these intermodal alternatives are comparable in cost, quality, and maturity to  
25 incumbent LEC services.”<sup>49</sup> Cox Arizona Telecom (“Cox”) is a CLEC that uses its cable  
26 facilities to provide service to its customers. It does not rely on Qwest either for UNE  
27 switching or UNE Loops. It is essentially overbuilding Qwest’s network using its own

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<sup>48</sup> Id footnote 1549.

<sup>49</sup> Id footnote 1549.

1 switches and (cable) loops. **BEGIN HIGHLY CONFIDENTIAL INFORMATION**

2  
3  
4  
5  
6 **END HIGHLY CONFIDENTIAL**

7 **INFORMATION** Cox is providing an essentially identical service to mass-market  
8 customers as is Qwest and the other CLECs. Thus, from an economic perspective it is  
9 difficult to justify not including Cox in the same market as the CLECs and Qwest.  
10 However, from a technical perspective Cox's method of providing service is  
11 fundamentally different from that of the other CLECs. Since Cox does not use UNE  
12 Loops its success tells us nothing about the ability of a CLEC to use its own switches in  
13 combination with UNE Loops, which is the subject of this case.<sup>51</sup> When Staff analyzed  
14 the Triggers in the Phoenix Rate Center the result was the same whether Cox was included  
15 or not.

16  
17 **Q. Are there any CLECs using their own switch to provide service to mass market**  
18 **customers that Staff believes should be excluded from the Trigger Analysis?**

19 **A.** Yes. SBC Telecom is maintaining a small number of mass-market customers but is not  
20 seeking to acquire any new customers.<sup>52</sup> On October 8, 1999 the FCC issued an order  
21 approving the merger of SBC and Ameritech.<sup>53</sup> That order required that SBC enter at  
22 least thirty major markets outside of its region as a facilities-based CLEC within thirty

<sup>51</sup> TRO footnote 1560.

<sup>52</sup> Response to Staff data request 3-1 and 3-2 and phone conversations with Staff council.

<sup>53</sup> *Applications of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, CC Docket 98-141, Memorandum Opinion and Order, FCC 99-279 (rel. Oct. 8, 1999) ("SBC/Ameritech Merger Order").

1 months of its issuance. Additionally, that order required that SBC serve both business and  
2 residential customers in those thirty markets. The SBC/Ameritech merger order included  
3 significant monetary penalties for SBC should it miss the market entry requirements.  
4 Since SBC Telecom is not actively seeking new customers and since it is likely only  
5 operating in Arizona due to regulatory requirements Staff believes that SBC Telecom  
6 should not be counted as part of the Trigger Analysis. The TRO is clear that states should  
7 not automatically include all CLEC switches in the Trigger analysis. Criteria laid out in  
8 the TRO indicate that CLECs such as SBC which are not actively seeking new customers  
9 should not be included in the Trigger analysis.<sup>54</sup>

10  
11 **Q. Please describe the Self-Provisioning Trigger Analysis performed by Staff for the**  
12 **Phoenix Rate Center.**

13 **A.** Chart 11 below shows the CLECs who are providing mass-market customers service with  
14 their own switches and UNE L in the Phoenix rate center (excluding SBC Telecom as  
15 discussed above.)

16 **BEGIN HIGHLY CONFIDENTIAL INFORMATION**

17

[REDACTED]				
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]

18 **END HIGHLY CONFIDENTIAL INFORMATION**

<sup>54</sup> TRO ¶ 499.

[REDACTED]

<sup>58</sup> MCI did respond to Staff data request 2-6 but Staff was unable to interpret their response.

<sup>59</sup> XO did not provide an answer to Staff data request 2-6



1 Highly Confidential Exhibit DLT-E to Qwest witness David L. Tietzel's Direct Testimony  
2 indicates that all of these UNE Loops are located in UNE Rate Zone 1. Thus, the Self-  
3 Provisioning Trigger is clearly not met in UNE Rate Zones 2 and 3 where zero CLECs are  
4 providing mass-market customers (business or residential) with service using their own  
5 switches and UNE-L. If Cox were included in the analysis there would possibly be one  
6 CLEC using their own switch to serve mass-market customers in UNE Rate Zones 2 and 3  
7 and thus the Self Provisioning Trigger would still not be met.<sup>60</sup> In UNE Rate Zone 1 there  
8 are seven CLECs providing mass-market business customers with service using their own  
9 switches and UNE-L. Thus for Business customers in the Phoenix Rate Center and UNE  
10 Rate Zone 1 the trigger is clearly met.<sup>61</sup> For residential mass-market customers there is  
11 only one CLECs using its own switch and UNE-L. If Cox is included in the analysis there  
12 are two CLECs providing residential mass market customers service using their own  
13 switch. Whether Cox is included or not, the trigger is not met for residential customers.  
14

15 **Q. Please describe the Self-Provisioning Trigger Analysis performed by Staff for the**  
16 **Tucson Rate Center.**

17 A. Chart 12 below shows the CLECs who are providing mass-market customers service with  
18 their own switches and UNE L in the Tucson rate center (excluding SBC Telecom as  
19 discussed above.)  
20  
21  
22  
23  
24

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<sup>60</sup> The word "possibly" is used because Cox did not identify exactly where its customers are located. We only know that they are in the Phoenix Rate Center.

<sup>61</sup> If Cox were added to the analysis there would be 8 CLECs counted and the trigger would still be met.

**BEGIN HIGHLY CONFIDENTIAL INFORMATION**

**END HIGHLY CONFIDENTIAL INFORMATION**

Again, all of the loops identified in Chart 12 are in UNE Rate Zone 1.<sup>67</sup> Thus, in UNE Rate Zones 2 and 3 the Self-Provisioning Trigger is clearly not met. For residential customers in UNE Rate Zone 1 there are no CLECs using their own switches and UNE-L. If Cox is included in the analysis there is one CLEC providing residential mass-market customers service using its own switch. Whether Cox is included or not, the trigger is not met for residential customers. For business customers the outcome of the Self-Provisioning Trigger depends on whether Cox is included in the analysis.

**Q. Please describe the Self-Provisioning trigger analysis Staff performed for the area within the Phoenix MSA but outside of the Phoenix Rate Center.**

**A.** Chart 5 above shows that there are no CLECs providing service to mass-market customers using their own switch in areas within the Phoenix MSA but outside of the Phoenix Rate Center. Thus the Self-Provisioning Trigger is clearly not met in these areas.

<sup>65</sup> MCI did respond to Staff data request 2-6 (on behalf of Brooks Fiber) but Staff was unable to interpret their response.

<sup>66</sup> Xspedious did not provide an answer to Staff data request 2-6

<sup>67</sup> **BEGIN HIGHLY CONFIDENTIAL INFORMATION**  
**END HIGHLY CONFIDENTIAL INFORMATION**

1 **Q. Were areas outside of the Phoenix and Tucson MSAs considered by Staff?**

2 A. Qwest's direct testimony and scope filing indicate that it is only seeking a no-impairment  
3 finding in the Phoenix and Tucson MSAs. Thus, Staff did not examine other areas for  
4 purposes of the trigger analysis.

5  
6 **Q. Please summarize Staff's findings regarding the Self-Provisioning Trigger.**

7 A. Chart 14 below summarizes the findings of Staff's trigger analysis. YES indicates the  
8 Self-Provisioning trigger has been met and NO indicates that it has not been met. This  
9 trigger analysis pertains only to non-IDLC loops.

10  
11 **Chart 14 summary of Staff's findings regarding the Self-Provisioning Trigger (excluding**  
12 **IDLC loops)**

Phoenix Rate Center	Cox Included	Cox Excluded
UNE Rate Zone 1 Residential	NO	NO
UNE Rate Zone 1 Business	YES	YES
UNE Rate Zone 2 Business and Residential	NO	NO
UNE Rate Zone 3 Business and Residential	NO	NO
Tucson Rate Center	Cox Included	Cox Excluded
UNE Rate Zone 1 Residential	NO	NO
UNE Rate Zone 1 Business	YES	NO
UNE Rate Zone 2 Business and Residential	NO	NO
UNE Rate Zone 3 Business and Residential	NO	NO

13  
14 **Q. Does Staff believe that Cox should be included in the Trigger analysis?**

15 A. Yes. Based on the factors laid out in the TRO, Cox should be included in the Trigger  
16 analysis. Footnote 1549 of the TRO states that when evaluating whether intermodal  
17 competitors should be included in the Trigger analysis, "states should consider to what  
18 extent services provided over these intermodal alternatives are comparable in cost, quality,  
19 and maturity to incumbent LEC services." Clearly Cox's offerings are comparable in cost,  
20 quality, and maturity to Qwest's. Thus, Cox should be included in the Trigger analysis.

1 **Q. Please describe Staff's analysis of the Second Trigger: Competitive Wholesale**  
2 **Facilities.**

3 A. The Competitive Wholesale Facilities Trigger requires states to make a finding of no  
4 impairment if there are two or more competitive wholesale providers (unaffiliated with the  
5 ILEC) of unbundled local circuit switching.<sup>68</sup> Nothing in the record to date indicates that  
6 there are any competitive wholesale providers (unaffiliated with Qwest) of unbundled  
7 local circuit switching in Arizona. Thus this trigger is not met in any market in Arizona.  
8

9 **Analysis of Potential Deployment**

10 **Q. Please describe the TRO's requirements regarding "Analysis of Potential**  
11 **Deployment."**

12 A. The TRO requires that "...where neither of the triggers described above have been  
13 satisfied, the state must conduct further analysis to determine whether the market in  
14 question is suitable for 'multiple, competitive supply.'"<sup>69</sup> The TRO requires states to  
15 evaluate three types of evidence in its analysis of potential deployment:

16 1) Evidence of Actual CLEC deployment of Switches

17 2) Operational Barriers

18 3) Economic Barriers.<sup>70</sup>  
19

20 **Q. Please describe the TRO's requirements regarding evidence of Actual CLEC**  
21 **deployment of Switches.**

22 A. The TRO requires that if there are three CLECs providing their own switches in the  
23 *enterprise* market and it is determined that these providers are operationally and  
24 economically capable of serving the mass market States must give this evidence

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<sup>68</sup> TRO ¶ 504

<sup>69</sup> Id ¶ 506

<sup>70</sup> Id ¶ 507

1 “substantial weight.”<sup>71</sup> The FCC’s reasoning here is that CLECs using their own switches  
2 in the enterprise market is an indicator of the possibility of CLECs using their own  
3 switches for mass-market customers.<sup>72</sup> Similarly, the existence of any CLEC using its  
4 own switch to serve mass market customers should be given substantial weight in the  
5 states analysis,<sup>73</sup> subject to consideration of economic factors.<sup>74</sup>  
6

7 **Q. What are Staff’s findings regarding evidence of Actual CLEC deployment of**  
8 **Switches?**

9 A. Charts 7 and 8 above show that within UNE Rate Zone 1 there are CLECs using their own  
10 switches to provide service to enterprise and mass-market customers. However, any  
11 determination based on this fact is inextricably linked to findings regarding operational  
12 and economic barriers as discussed below.  
13

14 **Q. What are the TRO’s requirements and what are Staff’s findings regarding**  
15 **Operational Barriers?**

16 A. Staff witness Richard Boyles addresses the issue of Operational Barriers in his testimony.  
17

18 **Q. What are the TRO’s requirements and what are Staff’s findings regarding Economic**  
19 **Barriers?**

20 A. Several parties to this case have provided testimony regarding economic barriers including  
21 several complex business case analyses. Staff is reviewing these testimonies and has  
22 issued discovery regarding them. Staff will provide its determination regarding Economic  
23 Barriers in its Rebuttal Testimony.  
24

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<sup>71</sup> Id ¶ 508.

<sup>72</sup> Id ¶ 508.

<sup>73</sup> Id ¶ 510

<sup>74</sup> Id footnote 1571

1     **Q.     Given that Staff is recommending a finding of no impairment within certain markets,**  
2           **does Staff have any recommendations regarding the “transition period” required by**  
3           **the TRO?<sup>75</sup>**

4     A.     Staff will address the transition period at a later date.

5  
6     **Q.     Does this conclude your direct testimony?**

7     A.     Yes, it does. However, Staff reserves the right to supplement this testimony at a later date.

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<sup>75</sup> TRO ¶¶ 529 – 531.